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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/708,765	03/24/2004	Yi-Chung Chan	VIAP0092USA	2764
27765	7590	02/06/2006	EXAMINER	
NORTH AMERICA INTELLECTUAL PROPERTY CORPORATION P.O. BOX 506 MERRIFIELD, VA 22116			SMITH, TYRONE W	
			ART UNIT	PAPER NUMBER
			2837	

DATE MAILED: 02/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/708,765	CHAN ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Tyrone W. Smith	2837	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 November 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 and 10-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 10-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-8 and 10-21 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "first index parameter" or "second index parameter" in claims 1-4, 8, 10, 14, and 16-18 is a relative term, which renders the claim indefinite. The term "first (or second) index parameter" or "index parameter" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. Examiner request clarification of the term and its meaning in the claims and specification.

The term "term index parameter" in claims 1 and 14 is a relative term, which renders the claim indefinite. The term "term index parameter" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention; does the Applicant mean a "first index parameter", second index parameter" or "index parameter". Examiner suggests that the Applicant amending the claims for better understanding.

It should be noted that claims 2-13 and 15-21 are also rejected based on 35 U.S.C. 112 second paragraph as being depended on rejected based claims.

**Claim Rejections - 35 USC § 103**

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-3, 12, 14, and 15 rejected under 35 U.S.C. 103(a) as being unpatentable over Baur (4949027) in view of Kau (DE424068).

Regarding Claim 1. Baur discloses an arrangement for and method of operating an electric step motor which utilize a controller (Figure 1 item 1) for outputting a control signal (Figure 1 item 7) to the stepping motor (Figure 1 item 2) according to a target displacement (Figure 1 item 15), moving the stepping motor (Figure 1 item 2) by way of a control signal, utilizing the controller for calculating a difference (Figure 1 item 11) between the target displacement (Figure 1 item 15) and an actual displacement (Figure 1 item 16) of the stepping motor; and utilizing the controller (Figure 1 item 1) for generating a control signal or parameter according to difference, and the actual displacement. However, Baur does not specifically disclose the stepper motor moving a load.

Kau discloses a controller (Figure 1 item 10) for sending control signals to the stepper motor (Figure 1 item 48) for controlling a load (Figure 1 item 54). Kau discloses utilizing the controller (Figure 1 item 10) to compare the difference and a threshold value, wherein if the difference is greater than the threshold value; the parameter (read from an sensor) is utilized to update the control signal or parameter.

It would have been obvious to one of ordinary skill at the time of invention to use Baur's control of a stepper motor with the concept of Kau's. The advantage of combining the two would

provide a system to ensure rapid correction of load changes while minimizing effects on load characteristics.

Regarding Claims 2, 3 and 12. Kau discloses utilizing the controller (Figure 1 item 10) to compare the difference and a threshold value, wherein if the difference is greater than the threshold value; the parameter (read from an sensor) is utilized to update the control signal or parameter.

It would have been obvious to one of ordinary skill at the time of invention to use Baur's control of a stepper motor with the concept of Kau's. The advantage of combining the two would provide a system to ensure rapid correction of load changes while minimizing effects on load characteristics.

Regarding Claims 14 and 15. Baur discloses an arrangement for and method of operating an electric step motor which utilize a controller (Figure 1 item 1) for outputting a control signal (Figure 1 item 7) to the stepping motor (Figure 1 item 2) according to a target displacement (Figure 1 item 15), a device (Figure 1 item 16) for tracing an actual position associated with the stepper motor, moving the stepping motor (Figure 1 item 2) by way of a control signal, utilizing the controller for calculating a difference (Figure 1 item 11) between the target displacement (Figure 1 item 15) and an actual displacement (Figure 1 item 16) of the stepping motor; and utilizing the controller (Figure 1 item 1) for generating a control signal or parameter according to difference, and the actual displacement. However, Baur does not specifically disclose the stepper motor moving a load and utilizing the controller (Figure 1 item 10) to compare the difference and a threshold value, wherein if the difference is greater than the threshold value, a parameter is utilized to update the control signal or parameter.

Kau discloses a controller (Figure 1 item 10) for sending control signals to the stepper motor (Figure 1 item 48) for controlling a load (Figure 1 item 54). Kau discloses utilizing the

controller (Figure 1 item 10) to compare the difference and a threshold value, wherein if the difference is greater than the threshold value; the parameter (read from an sensor) is utilized to update the control signal or parameter.

It would have been obvious to one of ordinary skill at the time of invention to use Baur's control of a stepper motor with the concept of Kau's. The advantage of combining the two would provide a system to ensure rapid correction of load changes while minimizing effects on load characteristics.

5. Claims 5-7 rejected under 35 U.S.C. 103(a) as being unpatentable over Baur (4949027) and Kau (DE424068) as applied to claims 1-3, 12, 14, and 15 above, and further in view of Nazarian et al (4685007)

Baur discloses an arrangement for and method of operating an electric step motor which utilize a controller (Figure 1 item 1) for outputting a control signal (Figure 1 item 7) to the stepping motor (Figure 1 item 2) according to a target displacement (Figure 1 item 15), a device (Figure 1 item 16) for tracing an actual position associated with the stepper motor, moving the stepping motor (Figure 1 item 2) by way of a control signal, utilizing the controller for calculating a difference (Figure 1 item 11) between the target displacement (Figure 1 item 15) and an actual displacement (Figure 1 item 16) of the stepping motor; and utilizing the controller (Figure 1 item 1) for generating a control signal or parameter according to difference, and the actual displacement. However, Baur does not specifically disclose the stepper motor moving a load and utilizing the controller (Figure 1 item 10) to compare the difference and a threshold value, wherein if the difference is greater than the threshold value, a parameter is utilized to update the control signal or parameter.

Kau discloses a controller (Figure 1 item 10) for sending control signals to the stepper motor (Figure 1 item 48) for controlling a load (Figure 1 item 54). Kau discloses utilizing the



controller (Figure 1 item 10) to compare the difference and a threshold value, wherein if the difference is greater than the threshold value; the parameter (read from an sensor) is utilized to update the control signal or parameter. However, neither Baur nor Kau discloses a stepping motor applied to an optical disk.

Nazarian discloses a disk drive with rack zero location system that includes stepping motor (Figure 3 item 34) applied to an optical drive (Figure 3 item 10) where the loading device is a pick up head or transducer (Figure 3 item 32) for the disk drive.

It would have been obvious to one of ordinary skill in the art at the time of invention to use Baur's an arrangement for and method of operating an electric step motor and Kau's invention with Nazarian's a disk drive with rack zero location system. The advantage of combining the two would provide a low cost disk drive system in which track zero information is contained in a sector located on the disk.

6. Claim 13 rejected under 35 U.S.C. 103(a) as being unpatentable over Baur (4949027) and Kau (DE424068) as applied to claims 1-3, 12, 14, and 15 above, and further in view of Kobayashi et al (6911800).

Baur discloses an arrangement for and method of operating an electric step motor which utilize a controller (Figure 1 item 1) for outputting a control signal (Figure 1 item 7) to the stepping motor (Figure 1 item 2) according to a target displacement (Figure 1 item 15), a device (Figure 1 item 16) for tracing an actual position associated with the stepper motor, moving the stepping motor (Figure 1 item 2) by way of a control signal, utilizing the controller for calculating a difference (Figure 1 item 11) between the target displacement (Figure 1 item 15) and an actual displacement (Figure 1 item 16) of the stepping motor; and utilizing the controller (Figure 1 item 1) for generating a control signal or parameter according to difference, and the actual displacement. However, Baur does not specifically disclose the stepper motor moving a load

and utilizing the controller (Figure 1 item 10) to compare the difference and a threshold value, wherein if the difference is greater than the threshold value, a parameter is utilized to update the control signal or parameter.

Kau discloses a controller (Figure 1 item 10) for sending control signals to the stepper motor (Figure 1 item 48) for controlling a load (Figure 1 item 54). Kau discloses utilizing the controller (Figure 1 item 10) to compare the difference and a threshold value, wherein if the difference is greater than the threshold value; the parameter (read from an sensor) is utilized to update the control signal or parameter. However, neither Baur nor Kau discloses the stepping motor applied to a scanner and the loading device is a scanner module of the scanner.

Kobayashi discloses a stepping motor (Figure 5 items 224 and 238) applied to a scanner (Figure 5 item 10) and the loading device is a scanner module (Figure 5 item 11) of the scanner.

It would have been obvious to one of ordinary skill in the art at the time of invention to use Baur's an arrangement for and method of operating an electric step motor and Kau's invention with Kobayashi's a invention. The advantage of combining the two would provide a stepping motor controller capable of reducing power consumption of a stepping motor and a image forming reader.

#### **Allowable Subject Matter**

7. Claims 4 and 16 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Claims 8, 10, 11 and 17-21 are rejected under 35 U.S.C. 112-second paragraph as being depended on the rejected based independent claims.



**Response to Arguments**

8. Applicant's arguments filed November 11, 2005 have been fully considered but they are not persuasive.

Applicant argues that the reference of Baur [027] and Kao [DE424068] do not teach utilizing the controller for generating a second index parameter according to the first index parameter, the difference and the actual displacement. Examiner takes Applicant arguments in full consideration.

Examiner's rejection is based on the claims as presented where Baur discloses an arrangement for and method of operating an electric step motor which utilize a controller (Figure 1 item 1) for outputting a control signal (Figure 1 item 7) to the stepping motor (Figure 1 item 2) according to a target displacement (Figure 1 item 15); moving the stepping motor (Figure 1 item 2) by way of a control signal, utilizing the controller for calculating a difference (Figure 1 item 11) between the target displacement (Figure 1 item 15) and an actual displacement (Figure 1 item 16) of the stepping motor; and utilizing the controller (Figure 1 item 1) for generating a control signal or parameter according to difference, and the actual displacement. Kau discloses a controller (Figure 1 item 10) for sending control signals to the stepper motor (Figure 1 item 48) for controlling a load (Figure 1 item 54). Kau discloses utilizing the controller (Figure 1 item 10) to compare the difference and a threshold value, wherein if the difference is greater than the threshold value; the parameter (read from an sensor) is utilized to update the control signal or parameter. Refer to the references and specification.

The Applicant, as explained in the rejections above, have not established a clear and concise meaning for first or second index parameter in the claims. Therefore, Examiner's rejection is again based solely on the claims as presented and give the broadest reasonable

interpretation. Rejection under 35 U.S.C. 112 second paragraph and 35 U.S.C. 103(a) is maintained.

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tyrone W. Smith whose telephone number is 571-272-2075. The examiner can normally be reached on weekdays from 8:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paula Bradley, can be reached on 571-272-2800 ext. 33. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

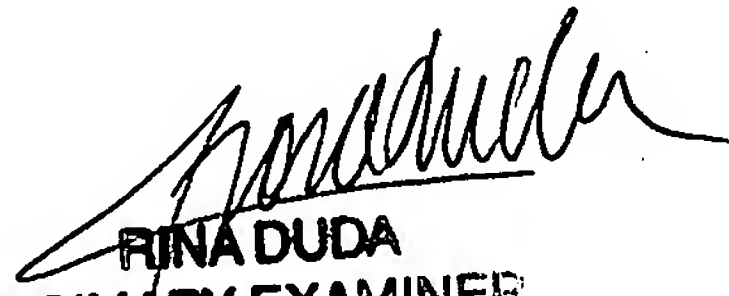
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

Art Unit: 2837

system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tyrone Smith  
Patent Examiner

Art Unit 2837



TINA DUDA  
PRIMARY EXAMINER